

REMARKS

Claims 1 and 3-12 have been pending in the application.

Claims 1 and 3-12 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kodaira (U.S. Patent No. 6,868,183) in view of Schneider (U.S. Patent No. 5,229,589).

The claims are amended, cancelled without disclaimer or prejudice, and, thus the pending claims remain for reconsideration, which is requested. No new matter has been added.

Amended independent claims clarify:

~~an area discriminating a density conversion unit~~
~~discriminating~~classifying an area of a document image indicated by the image data obtained by said image data obtaining unit, ~~and discriminating at least between into~~ two types of areas, that is, a useful information area having useful information for document processing and a useless information area having no useful information, ~~and specifying an image row to be thinned;~~

a data processing unit processing the document image by
 increasing ~~the~~ ratio of the useful information area to ~~the~~an entire area by processing at least one of a first partial image data which is image data of a portion for display of the useful information area and a second partial image data which is image data of a portion for display of the useless the information area based on the ~~discrimination~~classifying by said area ~~discrimination~~density conversion unit,

recognizing an entry column.

correcting a position of the recognized entry column, based upon the specified image row to be thinned, and

displaying on the document image the recognized entry column including presence/absence of a recognized mark, based upon the specified image row to be thinned ... (claim 1).

For example, the present application page 18, line 7 to page 23, line 10 supports the claims. It is readily apparent that Kodaira and Schneider do not expressly or implicitly disclose the claimed embodiments to support a prima facie case of obviousness, because Kodaira, as acknowledged by the Office Action, does not disclose the claimed "specifying an image row to be thinned." So the Office Action Response to Arguments relies upon Schneider, which discusses in column 2, lines 18-47, defining areas of interest on a scanned page image by drawing a box around each answer area with a mouse and "the preprinted data within the area(s) of the interest pixel map is subsequently expanded during image differentiation to

provide greater accuracy in scanning the completed questionnaire pages and detecting answer marks." So Schneider discusses expanding the data in the identified area of interest as part of image differentiation to detect answer marks. However, nothing has been cited or found that discloses expressly or implicitly to one skilled in the art to combine Schneider's expansion of data in the identified area of interest as part of image differentiation to detect answer marks, with Kodaira, and then further modify Schneider to provide the claimed "specifying an image row to be thinned ... recognizing an entry column, correcting a position of the recognized entry column, based upon the specified image row to be thinned, and displaying on the document image the recognized entry column including presence/absence of a recognized mark, based upon the specified image row to be thinned," and seen a benefit of displaying the document image with recognized entry columns as corrected to include the thinned image row, so the entire useful information area of the document image can be displayed on a display device. Namely "a display control unit controlling displaying of the document image including the thinned image row on a display device."

Independent claims 5-10 require similar patentably distinguishing features as claim 1.

Independent claim 11 is allowable, because in contrast to Kodaira and Schneider, independent claim 11 provides "updating a position of the recognized entry column in the document image, according to the specified useless information area to be thinned, and displaying the document image including the recognized entry column and the thinned image row on a display device."

Withdrawal of the rejections and allowance of the claims is requested.

CONCLUSION

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,
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